FOREWORD

GSA Federal Technology Service

Dear Federal Technology Service Customer:

Contemporary e-Business methods and the wonderful world of the Internet have made, and continue to make, profound changes to the buying practices of organizations worldwide. Reverse Auctions have played a significant role during this era of change. Buyers.Gov has conducted several "big ticket" reverse auctions (valued at over $1 million), one of which has been billed as the "the largest online reverse auction in the history of e-Government" (the Defense Finance and Accounting Service auction), and several smaller auctions. All have illustrated the power of such e-Business tools to improve the business process, reduce costs, and save taxpayer dollars.

Reverse Auctions add another dimension to the practice of acquiring goods and services - a more vibrant, active dimension known as "dynamic pricing." Dynamic pricing "systems" adjust the value of goods in response to short term changes in the market. This approach is not a new product, contract, or system development effort to be built. It is a simple commercially automated tool to streamline and conduct a new form of negotiation strategy for the procurement of commodities.

Also commanding a high priority among Buyers.Gov's pilot program goals are the Federal Government's established e-Commerce objectives: migrating to end-to-end electronic commerce, improvements in efficiency, streamlining processes, obtain best value in transactions, "all electronic" payments, and ensuring privacy and security.

The potential cost savings derived from reverse auctions relative to the traditional ways of obtaining quotes are compelling. Web-based procurement lowers transaction costs, and also allows the sharing of information among buyers and suppliers to be much more robust (thereby lowering inventory, enabling collaborative planning, facilitating spend analyses, eliminating supplier guesswork from price competitions, etc). By successfully integrating suppliers, customers and third party service providers into a business community, transaction and purchase costs ultimately can be driven down for all participants.

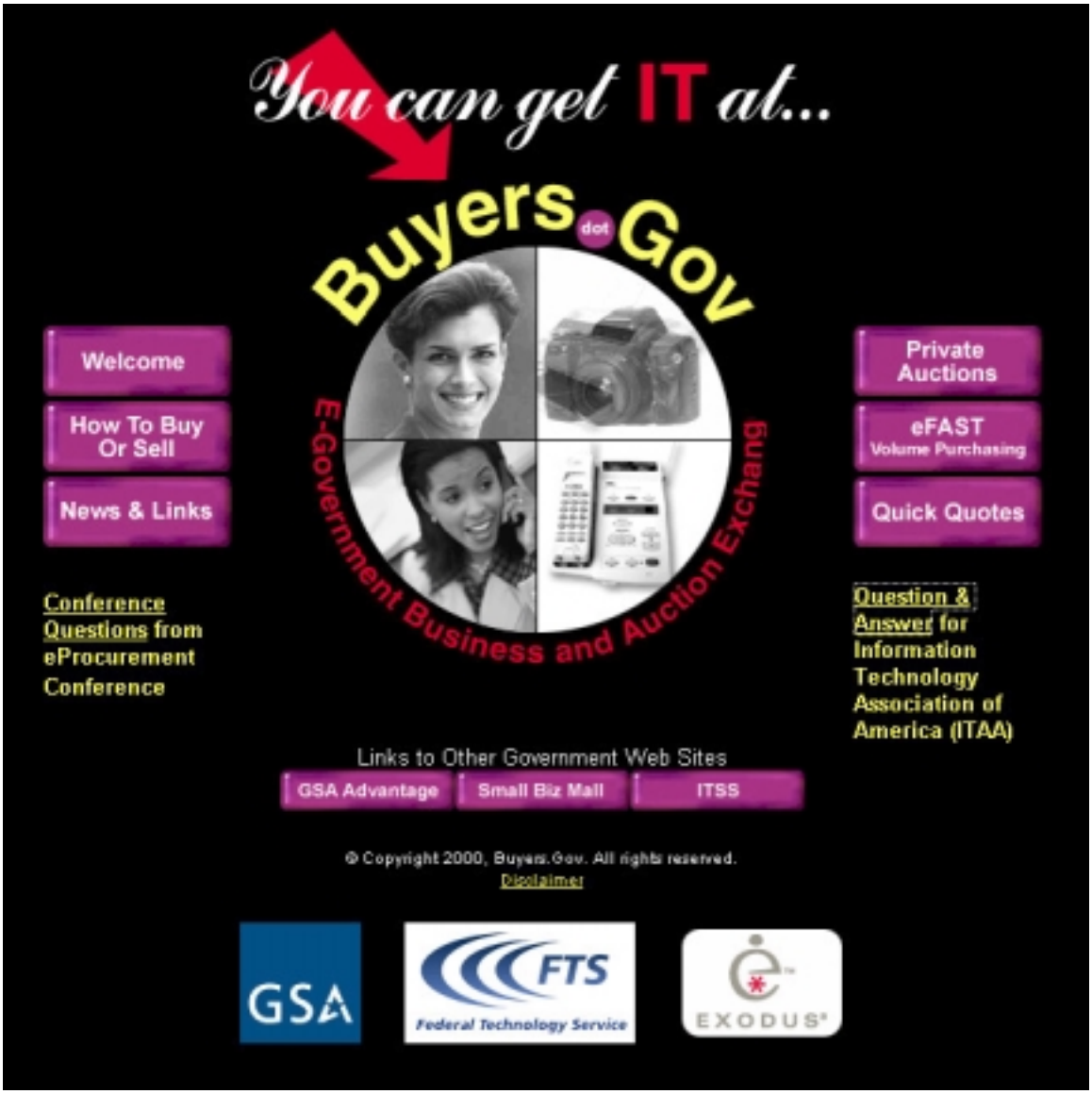
The Office of Service Development believes that wholesale movement of acquisition transactions to the web is well under-way. GSA/FTS recognizes the strength gained by establishing strategic relationships with other agencies or entities for like purposes. Please contact FTS/Buyers.Gov at buyersgov@gsa.gov or 1-800-742-8416 if your agency desires to partner in future e-Procurement pilots.

Sincerely,

John C. Johnson
Assistant Commissioner
Office of Service Development

DRAFT

THE FEDERAL TECHNOLOGY SERVICE GUIDE TO BEST PRACTICES FOR CONDUCTING REVERSE AUCTIONS



General Service Administration
The Federal Technology Service
Office of Information Technology Integration
APRIL 2001

TABLE OF CONTENTS

1. INTRODUCTION

General Services Administration's (GSA) Federal Technology Service (FTS) Office of Information Technology Solutions (ITS) and Office of Service Development (OSD) has been offering private reverse auctions since December 1999, as part of the larger Buyers.Gov e-Procurement Solution. Buyers.Gov was the first government exchange portal operated by the government. Buyers.Gov, a secure site, is the place where federal agencies can purchase IT commodities through reverse auction. Currently, GSA FTS has secured contracts with five companies, called "enablers," who are charged with conducting online reverse auctions for federal agencies.

The Federal Government has spent the previous ten years demonstrating a commitment to cost reductions and promoting best value. Reverse auctions not only promote best value, but also ensure fair and equal competition from a variety of industry partners. The use of reverse auctions through Buyers.Gov is a legal, easy-to-use procurement tool that benefits your organization as well as your supplier community. When the government first began using reverse auctions for online procurement, the lowest price technically acceptable bid award was more common, because they are simpler and more applicable to commodities. As we have progressed in our thinking about the use of reverse auctions for online procurement, we now see that reverse auctions are an effective tool for promoting best value selection during the procurement process. Our experience has repeatedly demonstrated that online auctions enhance competition and reduce the price of goods through competitive bidding.

Below are some the more popular reasons why government agencies are turning to reverse auctions for online procurement:

- **Online auctions are small-business friendly**. Suppliers need only have access to a browser to participate. Reverse auctions also allow suppliers to compete under acquisitions where they might not have otherwise been invited to participate (under the standard "get three quotes" model).
- **Reduced paper-based steps and errors.** By automating the procurement process, online auctions result in a reduction of paper-based processes and manual activities that were once necessary in the traditional procurement model.
- **Competition is documented in an automated environment.** The entire bidding history for an auction is captured in a report by the enabler, and provides the procurement officer with valuable information that can be used as market intelligence for future auctions.
- **Reduced acquisition cycle time**. Reverse auctions promote reduced acquisition cycle time through the rapid bid, re-bid and negotiation process done in real-time over the Internet. With reverse auctions, agencies can receive competitive bids from suppliers in the matter of minutes instead of days or weeks.

Reverse auctions, like those conducted through Buyers.Gov, demonstrate that the Federal Government is committed to creating more equal opportunities for all suppliers who are qualified to supply the government with quality products at the best possible prices. Gone are the days when only three suppliers are asked for a quote which essentially becomes “set in stone” as part of the procurement process. Reverse auctions make true competition among suppliers possible. Through reverse auctions, the Federal Government is asking all suppliers to "sharpen their pencils" and enter the competitive market of online procurement, and may the best industry partner win.

Through Buyers.Gov, GSA FTS has assembled background information on auctions and reverse auctions as a dynamic pricing tool for e-procurement in the public sector. We have highlighted Best Practices and Lessons Learned, examined the project objectives of dynamic pricing on Buyers.Gov, and outlined the benefits, issues and requirements for reverse auctions. We conclude with a summary of the future trends in reverse auctions and a list of contacts for further information.

Background

Pricing tools such as online auctions hold tremendous potential for both public and private entities to reduce procurement costs and lower the price of goods purchased. Currently, less than 1 percent of the more than $1 trillion in federal, state and local government transactions take place online.[1] In a recent paper by David C. Wyld of Southeastern Louisiana University, it was estimated that federal, state and local government organizations combined could save more than $50 billion in procurement costs annually through online auctions.[2]

The Federal Government is being challenged to streamline their procurement processes and pursue end-to-end electronic commerce solutions to keep pace with the new electronic environment. To meet these challenges, GSA FTS has developed Buyers.Gov, a Web-based marketplace designed to provide a common Web platform for government buyers and sellers to conduct traditional procurement transactions online utilizing online purchasing tools.

Buyers.Gov fills a unique market niche as a Federal government-wide electronic procurement exchange administered by a Federal entity – the Office of Service Development (TS) group of GSA’s FTS. By utilizing commercial software solutions to construct and operate its acquisition platforms, Buyers.Gov leverages its knowledge of the federal procurement process as well as its established relationships with federal purchasers.

1 David Wyld, "The Auction Model: How the public sector can leverage the power of e-commerce through dynamic pricing", The PricewaterhouseCoopers Endowment for the Business of Government, October 2000.
2 Ibid

The private reverse auction tool of Buyers.Gov allows multiple suppliers to bid competitively for the sale of an item to a buyer. The primary objective of a private reverse auction is to reduce the price and/or increase the value of the product bids. The dynamically competitive aspect of reverse auctions is what drives this decrease in price and/or increase in value. Utilizing the Internet as the platform for reverse auctions enables unparalleled real-time access for auction participants, which in turn permits simultaneous or dynamic bidding. Simultaneous bidding enables an automated negotiation state, where bidders may change the nature of their original bid in order to be successful.

Online Auctions and E-Procurement

The procurement function represents a large portion of the Federal Government's business operations and as such, offers significant potential for cost savings. One means of achieving these savings is through the use of electronic procurement methods. Automating the procurement function can save an estimated 60-70% of transaction cost associated with procurement (Source: AMR Research Corporation).

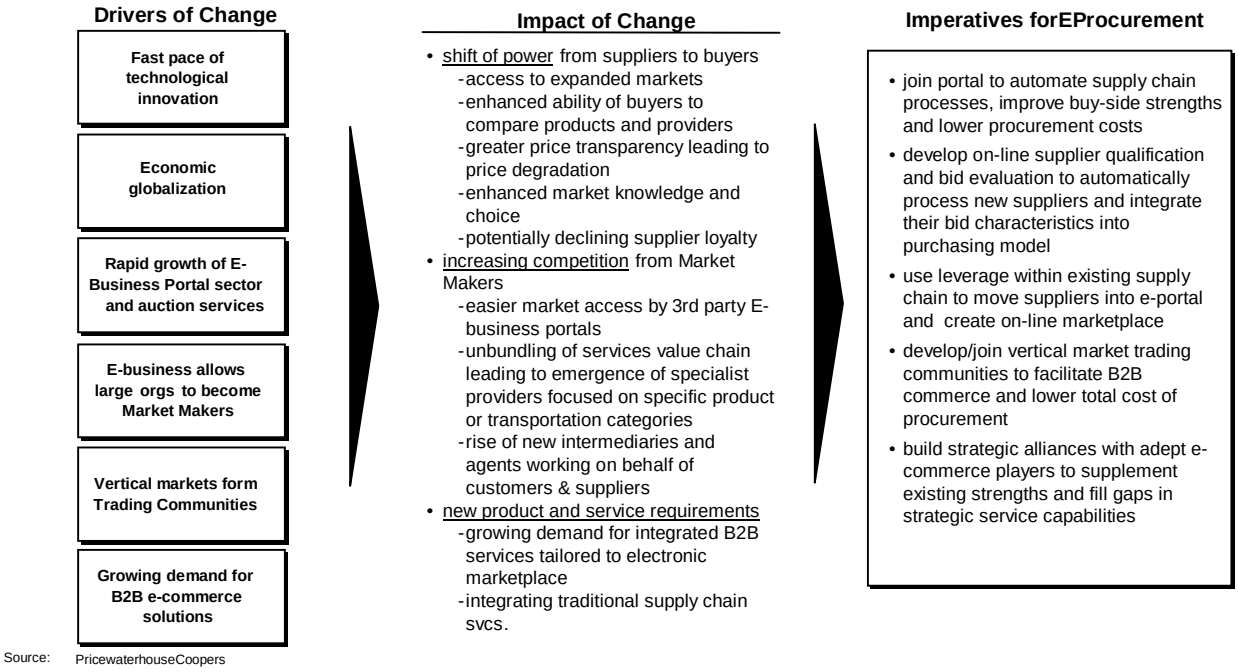
As in the private sector, the public sector has begun to use online auctions as part of their e-procurement initiatives, in an effort to streamline processes and drive down costs. While the public sector has been somewhat slower to adopt these technologies than the private sector, important strides have been made.

Public sector procurement takes place in the Business-to-Government, or B2G, marketplace, which is different from purchasing in the private sector marketplace, or Business-to-Business (B2B) marketplace. In the private sector, businesses procure goods and services to reinforce the bottom line. In contrast, the government buys not only to obtain goods and services for continuing operations, but the acquisitions must promote multiple socio-economic goals that include the use of small, minority and women-owned businesses, establish various labor laws, protect against unfair competition, and promote a sound economy by cultivating the commercial vendor community.

The following chart summarizes the challenges and opportunities for the strategic integration of E-Procurement components including online auctions.

The Electronic Procurement Opportunity

The rapid acceptance of electronic and Internet commerce is quickly changing the procurement value chain. This is creating a set of challenges and opportunities for strategic integration of E-business. Organizations must address these challenges and position themselves to capture these savings and potentially open the door for new procurement markets.



Source: PricewaterhouseCoopers

The Reverse Auction Method

Reverse auctions are not new acquisition methodologies or strategies – they are merely a pricing tool. All acquisition plans should at least consider a reverse auction as a method to negotiate price. Great savings can be gained through the use of reverse auctions when there is full and open competition. The probability of greater savings increases as the value of the acquisition increases, due to economies of scale and volume discounts. In other words, greater price compression will be attained if the quantities and their estimated value are significant.

In a reverse auction, buyers specify the product they wish to purchase and a price they are willing to pay while Sellers of the product compete to offer the best price for the product over a predetermined timeframe. It should be noted that the laws and government regulations that apply to ordinary acquisitions also apply to reverse auctions.

Until 1997, the Federal Acquisition Regulation (FAR) prohibited the use of auctions or "auction techniques" in negotiated acquisitions. Part 15 of the FAR has since been rewritten, and government prohibitions in using auction mechanisms removed. It is important to note, however, that government regulations still exist that prohibit revealing the actual name of the bidders (or their companies names) during an acquisition, this is popularly construed to apply to reverse auctions. Auctions conducted through

Buyers.Gov conform. While the Government knows the bidder's identities in an auction event, each bidder's identity is displayed as an alias and the bidders identities are not known to one another. Also, since specific bidder's price information may not be released without that bidder's approval, the auction Enablers will obtain permission from the suppliers before the auction begins. In the spirit of acquisition streamlining, auctions serve to embrace best business practices and Government procurement reinvention initiatives.

Many reverse auctions are used for spot buying. The procedure replaces the time-consuming offline request for quotation (RFQ) process of calling a list of suppliers and comparing quotes. Marketplaces with large amounts of sellers (exchanges) offer the buyer in effect a pre-assembled "Rolodex" of sellers, while buyers conducting reverse auctions on their own sites must solicit prospective suppliers in advance to participate.

Reverse auctions should be used when they are suitable. The use of a reverse auction might not be appropriate as a pricing tool if the acquisition is for a complex systems integration task. However, if the task includes hardware and software of sufficient quantities and value then the use of an auction to acquire those products might be considered.

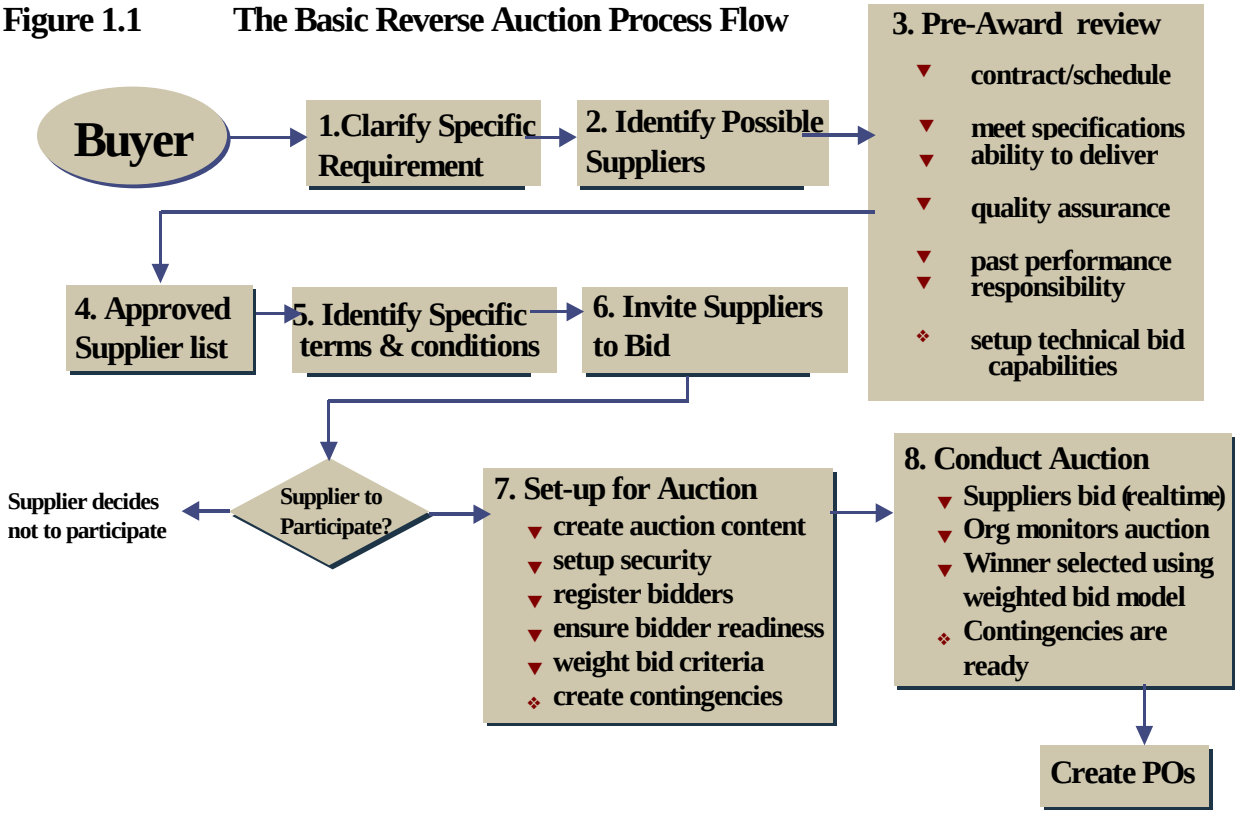
Reverse Auctions: The Process

The following outlines the reverse auction process on Buyers.Gov. See Figure 1.1 for a graphical depiction of the process.

1. The buyer, or auction maker at the direction of the buyer, creates a list of items and product specifications and chooses a length of time for the auction to run.
2. The buyer identifies potential suppliers who will participate in the auction.
3. The buyer or auction maker conducts pre-award reviews of suppliers, including availability of contracts/schedules, ability to meet specifications and delivery times, quality control, costs, past performance, issues of responsibility, etc.
4. This results in generation of an approved supplier list.
5. Specific and terms and conditions of suppliers are identified (Online listing accelerates the RFQ process and makes the entire supplier communication process more efficient).
6. Qualified suppliers are invited to participate in the bidding process.
7. All suppliers agreeing to participate in the auction are set up for the auction. This includes security and registration setup, etc. Suppliers must respond to the auction maker with their intention to compete.
8. The auction is conducted. Suppliers then compete in real time for the purchase order by lowering their prices until the auction is closed.

Generally, the lowest bid wins the contract. However, bid modifiers can and should be used to ensure a level comparison of industry partners (see below).

Figure 1.1 The Basic Reverse Auction Process Flow



Reverse Auctions—Benefits, Issues and Requirements

Online auctions can provide various benefits to Federal Agency's buyers and suppliers. Some of the **benefits** are:

- *Simplifies the acquisition process* -- The acquisition process changes little when using a reverse auction to determine price. Bidders are informed in a standard solicitation that a reverse auction will take place. If a solicitation requires posting in FEDBIZOPPS or the CBD, it should state that a reverse auction will be used. Once the Government knows the identity of the bidders, they will receive training from the enabler hosting the auction. The training is simple and intuitive taking as little as 15 minutes in some cases. It is recommended that the training be conducted as close to the actual date of the auction as possible. If there are some reservations on the part of the contracting staff or the bidders the use of a "mock" auction can ease pre-auction jitters if they exist.

- *Significant cost savings*. Online reverse auctions provide significant cost savings to the Federal Government by facilitating sales at the lowest market price for the product or service. Our experience has been that this price is significantly lower

than the historical price offered by suppliers. Cost savings through online reverse auctions range between two and twenty percent and in some cases, as high as fifty percent. Savings can also be realized through streamlined processes and the reduction of paper processing that comes with online reverse auctions. Internet orders are calculated to cost only $7 in 'soft' costs as opposed to a $147 in a traditional purchasing format, as suggested by one manufacturer.

- *Increased participation in bid activity and access to new suppliers and markets.* In some cases, it is to the Government's advantage to have a larger number of qualified bidders to participate in the event when there is a perceived lack of competition or few bidders. Online auctions enable more competitors to access the market, while giving agencies control over how many suppliers will participate. Additionally, Buyers.Gov provides more business opportunities to small businesses and will reduce their costs to discover, offer, and market their services in a truly national market. As exemplified by the link to the SmallBizMall on the Buyers.Gov web page, FTS envisions the creation of a marketplace where certain specific auctions can be "set-aside" only for small business.

- *Increased marketing and business intelligence*. By participating in auctions, suppliers are afforded additional business opportunities that they may not have otherwise had. Online auctions conducted in real-time provide them with market intelligence that may allow them to be more competitive in the next auction event in which they participate. They may be able to get better prices from their suppliers or learn that they need to improve their business practices to become more efficient.

- *Procurement process transparency*. Transparency in the Federal procurement and contracting processes is critical. Online reverse auctions exude that valuable transparency. Prior to the auction, all bidders and suppliers are provided common information using the Internet. During the auction, suppliers have the added benefit of knowing the bids being placed by other suppliers (though the supplier's true identities are only revealed to the auction owner). Suppliers also benefit from more open and immediate feedback that is provided at the close of the auction.

- *Operating Efficiency for Buyers.* The rapid bid, re-bid, and negotiation process shortens the cycle time for the procurement process from weeks to hours. The likelihood of other factors influencing the process, such as favored suppliers and other subjective criteria, could be reduced. Additionally, because the auction process is automated, bidding and contract awards become closer to an administrative function. This gives buyers the freedom to focus more time on supplier qualifications and contract administration rather than bid analysis.

- *Suppliers are able to truly compete*. Suppliers benefit by being able to make multiple online bids in response to other suppliers' bids. This allows suppliers to be more competitive than they would be using static (one-time) quotes.

There are several office level **issues** that need to be addressed if your agency is considering using reverse auctions:

- *Reverse auctions are most efficient for high dollar, well-defined purchases.* Online reverse auctions require time investments for set-up, and administrative fees. We have found that it is most cost-effective to use reverse auctions when purchasing large quantities of an item for which you can create very clear product specifications. It is very important for specifications to be as "bullet-proof" as possible. If it makes sense, the specification can be broken up into lots or logical groupings. For example one lot might be for desktop PCs, another lot could be for laptops or printers. This could result in multiple contract awards. Certain lots or entire acquisitions could even be set aside for small business. Conversely, the auction event could be awarded "all or none," grouped together in one lot.

- *Suppliers may be averse to participating*. Suppliers are sometimes adverse to participating in reverse auctions based on the misconception that reverse auctions result in contract awards based solely on the lowest bid. This is not the case. Reverse auctions are a dynamic pricing mechanism that is used to purchase quality products at the best possible prices.

- *Online auction technology can be configured to work with existing legacy systems and transaction systems, and can complement E-Commerce purchasing investments and overall strategy*.

In order to obtain successful results from Internet auctions, it is important that the following functional **requirements** and conditions are satisfied:

- ✓ Auction items need to be fully and accurately specified, especially as it relates to buying Information Technology (IT), to insure that price doesn't take precedence over quality.[3]
- ✓ The use of a phone "bridge" during the auction with communications using aliases should be used.
- ✓ Terms of sale and delivery must be clearly defined in the specification and be in accordance with GSA's (or the sponsoring agency's) contracting guidelines.
- ✓ Auction process must mirror internal purchasing processes, requiring minimum process redesign prior to implementation.

In Section 2 of this document we have highlighted the Best Practices and Lessons Learned in Reverse Auctions of Buyers.Gov.

3 For instance, the specification received in one reverse auction event did not stipulate a warranty requirement, or "Service after the Sale", nor did it include a minimum CPU quality standard. Only after discussion with the end user, initiated by the contract specialist, were these requirements added. If care is not taken, and an open (not private) auction is held with participation open to anyone in industry, bids could be received by companies incapable of providing standard industry warranties on IT equipment

2. THE BEST PRACTICES OF BUYERS.GOV

Lessons Learned

- ✓ **Government reverse auctions are like any other government procurement. The acquisition process changes little when using a reverse auction to determine price.**

  The procurement rules for utilizing schedule contract vehicles are in accordance with FAR. The basic business processes (acquisition processes) outlined in the FAR must be followed. A Reverse Auction is merely a different way of negotiating and arriving at a fair and reasonable price through dynamic pricing. The requirements of the procurement process do not change with the use of reverse auctions. The applicable FAR clauses, whether they pertain to - say - the Buy American Act (BAA), the Trade Agreement Act (TAA), small business participation, or another area will be in, or be referenced in the solicitation. Basically, the bidders need are informed in a standard solicitation that a reverse auction will take place.

- ✓ **Reverse auctions should be linked to an agency's existing acquisition strategy.**

  Since reverse auctions are such a powerful price negotiation tool, they should be used in any case when it makes sense to do so.

- ✓ **Know when and where to use a reverse auction.**

  Reverse auctions are not appropriate for all acquisitions, and it is important to understand where they should be used. For example, the use of a reverse auction might not be appropriate for the acquisition of a complex systems integration task. But, if that task included sufficient quantities of hardware and software, then the use of an auction to acquire those products might be considered.

  Reverse auctions could possibly be used to acquire prices for services, as long as they are non-complex and well defined. For example, it would be appropriate to use reverse auctions to acquire training services where the class size, location, amenities, training materials, etc. are easily articulated and adequate competition exists. Similarly, hosting a call center to be staffed 24/7, with other, service level criteria defined could also be considered for a reverse auction.

- ✓ **Evaluate the capabilities of several enablers before choosing one.**

  There are a plethora of contractors that can provide the enabling technology to conduct a reverse auction. Each one offers different levels of service and pricing options. It is very important to do your homework before selecting the one that best

suits your needs. The right vendor will be the one that provides the right level of service at a reasonable price.

✓ **Be aware that different levels of service can be obtained.**

As mentioned above, each vendor offers a different level of service. There are very robust service offerings available that might include researching the marketplace for additional bidders, or having foreign language qualified personnel to assist in the auction if bidders are located internationally. While useful, these services can increase the cost of conducting the auction, and considerations should be given as to whether these services are needed by your organization.

✓ **Be aware that different price models exist.**

When selecting a contractor to provide the auction enabling technology, be aware of the different fee structures that exist. Some fees might be based on a share in savings model that is based on the difference between the Government cost estimate and the final auction price. Fees might also be on a per-event basis or obtained through a licensing agreement.

✓ **The bigger the "spend" the greater the price compression, and the greater the savings.**

The probability of greater savings increases as the value of the acquisition increases, due to economies of scale and volume discounts. In other words, greater price compression will be attained if the quantities and their estimated value are significant. Most of the reverse auctions conducted on Buyers.Gov have been valued at $1 million and above. For IT products valued at over $1 million, we have achieved savings ranging from 12-16% for servers, desktop systems and laptops. But, we have also hosted reverse auctions for values ranging from $29,000 to $40,000 for commercial IT products that have resulted in savings ranging from 7-8% over the historic pricing.

✓ **Competition: The more the better.**

Great savings can be gained through the use of reverse auctions if there is competition. Static competition and getting quotes from the minimum number of resellers and awarding to the lowest bidder is being replaced by dynamic competition, which is more efficient and effective. Reverse auctions maximize and optimize competition. It is in the Government's best interest to increase competition and have a large number of qualified bidders participating in an auction event. It also benefits industry by giving them an opportunity to compete in this market, where they might not have otherwise. This is particularly true for small businesses.

✓ **Bidders must be present (online), fully prepared, and qualified.**

- ✓ **Both the Contracting Officer and Bidders should be provided training by the auction enabler before the start of the auction.**

  Once the Government knows the identity of the bidders, they should receive training from the enabler who will be hosting the auction. The training should be conducted as close to the actual date of the auction as possible. The training is simple and intuitive, and in some cases, takes as little as 15 minutes to complete. The contracting officer should also take the training and become familiar with the bidding process so that they will be better able to address a problem if one should arise during an event. The date and time of the training should be coordinated through the contracting officer and the enabler. If there are some reservations on the part of the contracting staff or the bidders the use of a "mock" auction can be helpful. An open phone "bridge" can also be used during the auction to alleviate fears that bidders and contracting office might have. When doing this, participants are able to communicate during the auction using aliases.

- ✓ **The Contracting Officer must be in charge of the entire process.**

  It is extremely important that the contracting officer exercises due diligence and takes charge of the acquisition process. The contracting officer is the key to the success of the event and should be present during the bidding.

- ✓ **A backup Contracting Officer should also be knowledgeable about the auction process.**

  Consideration should also be given to having a backup-contracting officer present in the event the primary contracting officer is unavailable. If both contracting officers are present, only one should address any specific problem that might arise or provide guidance if it is requested. If conflicting advice is given it increases the risk of protest.

- ✓ **Ensure that the specification is "bulletproof".**

  It is important that buyer specifications include as much detail as possible so that bidders can fairly and accurately compete in the online bidding process. Details such as terms of sale and delivery must be clearly defined in the specification and be in accordance to GSA's or the sponsoring agency's contracting guidelines.

- ✓ **Consider separating the specification into "lots" or logical groupings of items to be acquired.**

  Your specification can be broken up into lots, or logical groupings of items to be acquired. For example one lot might be for desktop PCs, another lot could be for laptops or printers. This could result in multiple contract awards. Conversely, the auction event could be awarded as "all or none," and grouped together in one lot. GSA FTS and the auction enabler can assist you in determining whether the use of lots is suitable to your procurement.

- ✓ **Prior to the auction event, ensure that the documentation you will receive at the end of the auction is appropriate for the contract file.**

  The contracting officer should ensure that the documentation that they will receive from the auction enabler at the close of the auction will be appropriate for the contract file. This should be done before selecting an enabler. Learning that there is insufficient documentation after an auction is too late. A little advanced planning will ensure a successful event. FTS recommends obtaining electronic records of the event from the enabler that can be printed out, if necessary. At a minimum, any report you receive should include a list of the bidders identities, aliases, number of bids, amount of bid, time of bid and whether or not they lost connection during the auction.

- ✓ **The Contracting Officer must establish the rules of the auction prior to the auction event.**

  It is very important for the contracting officer to establish the rules of the auction before the start of the auction. Once the rules have been established, it is critical that the contracting officer enforces the rules. If the rules are relaxed or deviated from during the event, there is a risk of protest. The rules consist of the following:

  Set the time and date of the auction**.** When considering the date and time to conduct an auction, consider an event near the end of a business quarter when industry is likely to want to make revenue projections. Time zones must also be considered. Try to conduct the auction during normal business hours if at all possible, so that all participants can have access to key staff members during the event. Also consider that conducting an auction at 8:00AM EST could put a West Coast bidder at a disadvantage, since it would be 5:00AM PST in their time zone. Be flexible and accommodating when at all possible.

  Establish the minimum bid decrements. Rules for minimum bid decrements should be considered. On a large value auction the minimum size of a bid decrement might be $1000. Small bid decrements tend to waste a great deal of time since bidders could bid as little as $1.00. Many

successive small bids could have the effect of extending the auction for a very long period of time. Conversely, some auction might allow price precision to 4 decimal places.

Establish the currency for the offering of bids. Reverse auction software has the ability to receive bids in US dollars or a variety of international currencies if your requirement dictates.

Establish the rules for overtimes and extensions. The contracting officer will be asked to establish the rules for overtimes and extensions. Overtimes occur when a bid is received within certain pre-determined parameters at the end of the initial auction period. For example, if a bid is received within the last minute of an auction is ¼% lower that the previous low bid the auction will be extended for another one, two or three minutes. The same rules will apply during the extension so that there may be several extra time periods after the initial auction period has completed.

- ✓ **Use language in the solicitation that permits the purchase of additional quantities of 10%-20% at the final auction price.**

  It has been the experience of the FTS that at the conclusion of an auction, agencies will often have additional funding left due to the savings achieved from the auction. The reseller is under no obligation to sell additional quantities at the auction price since that price may be based on a fixed quantity. Consider using language in the solicitation that permits the purchase of additional quantities of 10%-20% at the final auction price. This will permit expenditure of those funds for the extra quantities and those quantities can be processed under one order.

- ✓ **Reverse auctions are merely pricing mechanisms, and do not preclude the use of the best value criteria for consideration in the contract award.**

  When considering bids placed through auction, you must not consider only the price, but also the technical, management and past performance of the bidder. Reverse auctions permit offerors to know their competitors pricing – just not their identity.

- ✓ **Consider inviting only small businesses to participate.**

  Reverse auctions are small business friendly since you need only a Web browser to participate in e-commerce. Small businesses appreciate opportunities that they would not normally have received under the "get three quotes" rules. They are able to see what their competition is doing, understand their marketplace better and gain valuable business intelligence with each auction they participate in.

Section 3 of this document describes the dynamic Internet-based auction format facilitated by FTS, its benefits, requirements, and applicability to the Federal

Government's e-Procurement initiatives. In addition, the next section identifies the commercial-off-the-shelf (COTS) product offerings utilized by GSA and provides examples of Buyers.Gov auction events.

3. AUCTION FORMATS

Overview

Every industry has institutionalized trading relationships around the three traditional communication channels -- face-to-face, phone or fax, and mail. The Internet sets the stage for new trading models -- auctions, aggregators, and exchanges. These models fundamentally change how markets operate by attacking structural inefficiency as they increase seller reach and buyer access, connect supply chain participants more directly, and provide previously unavailable information.

Research from the Meta Group indicates that approximately $8.5B worth of transactions annually are executed through business-to-business (B2B) and business-to-consumer (B2C) online auctions.[4] It is anticipated that online auction volumes will approach $100B by the year 2004.[5] Today, many of the commercial-off-the-shelf online auction software industry partners such as FreeMarkets, Frictionless Commerce and SupplierMarket.com provide robust solutions to simplify the development processes to enable online auctions. In addition to specific online auction vendor offerings, the E-Procurement solution industry partners including Ariba, Commerce One, Oracle (and others) are now integrating online auction capabilities within their product offerings.

This section presents an overview of the concept of online auctions, the objectives of FTS's use of dynamic pricing formats, as well as a discussion and assessment of the main dynamic pricing online auction format (reverse auctions), its benefits, and applicability to the Federal Government's procurement process.

Dynamic Pricing Formats

As the Federal Government moves towards end-to-end electronic commerce solutions, the use of dynamic pricing models within FTS's E-Procurement framework has become more imperative. FTS examined the different Internet dynamic pricing formats available in today's marketplace for compatibility with the Federal Government's business operations. This study included reverse auctions, time-for-money auctions and customized pricing models. Each when examined closely provides differing benefits. FTS focused on the auction model that it believes most closely matches the requirements of the Federal Government: reverse auctions.

4 *Once, Twice, Gone: Auctioning the Future – Part 1*, Electronic Business Strategies, Meta Group, Carl Lehmann, October 14, 1999
5 Ibid

Project Objectives

FTS's main objective in exploring dynamic pricing models was to examine product offerings that leverage and complement existing Federal efforts in the area of E-Procurement and reverse auctions. A second important objective of this initiative was to formulate the steps necessary to develop an online auction capability that leverages Federal buying power and buying habits, and provides program-joining incentives to vendor suppliers.

FTS expects to accomplish the following goals with Buyers.Gov:

- **Establish Buyers.Gov as a resource for Government agency buyer aggregation**

FTS is the largest government buyer of IT and it is the "natural aggregator" for the Federal Government. Awards made through Buyers.Gov eFAST model will be made through GSA FTS Contracting Officers. However, when using the Private Auction component of Buyers.Gov the requiring activity may issue the order. For example, FTS's purchasing of spare parts for aircraft is not our core competency - we specialize in IT solutions. If the requirement is non-IT related, FTS will act as an Applications Service Provider (ASP) and provide an IT solution. the Reverse Auction enabler contract, to the spare parts problem. The requiring activity would then issue the ensuing orders.

- **Leverage existing contracts with auction technology enablers**

Agencies participating in Buyers.Gov reverse auctions will not be required to set-up contracts with different enablers—FTS has already done this. FTS has already contracted for the auction technology and professional expertise. These costs are included in the price of the item acquired, or in the reverse auction fees that will be billed to the customer, or through the percentage of "share in savings" paid to the enabler. Buyers.Gov has selected/chosen to work with a series of enablers to expand the offerings/services available to its respective customers. Buyers.Gov already has five contracts in place with reverse auction enablers.

- **Implement a risk mitigation strategy**

It makes little sense for each service or agency to dilute the Reverse Auction landscape with individual contracts. Rather than each agency paying for the service individually, centralize the function to provide reverse auctioning services to the Federal Government. By contracting with five different reverse auction providers, FTS ensures much greater choice in the use of the different solutions in conducting the auction events, in addition to mitigating the risk and exposure associated with contracting with just one vendor.

Reverse Auctions: Industry Partners

There are a number of commercial contractors that can provide the enabling technology to conduct a reverse auction. It is in your best interest to choose the right provider for *your* auction.

If your Agency does elect to perform a reverse auction, select an enabler that provides the right level of service at a reasonable price. There are very robust service offerings available. These services might include researching the marketplace for additional bidders, or having foreign language qualified personnel to assist in the auction if bidders are located internationally. These services can increase the cost of conducting the auction and considerations should be given as to whether they are needed. Along with varying levels of service there are varying fee structures. Some fees might be based on a share in savings model that is based on the difference between the Government cost estimate and the final auction price. Fees might also be on a per event basis or obtained through a licensing agreement. Bottom Line: look at several enablers and choose the right enabler with the right level of service at the right price.

Remember, when using Buyers.Gov there are contract vehicles already in place. The time, effort, and funds do not have to be expended putting other vehicles in place. With Buyers.Gov that work has already been done by the Federal Technology Service.

Private contractors providing **reverse auction** enabling technology to Buyers.Gov include:

- ACS Government Solutions Group;
- CIS Global;
- Electronic Data Systems Corporation (EDS);
- FreeMarkets Incorporated; and,
- Oracle Corporation.

Examples of Reverse Auctions from Buyers.Gov

The Federal Government can utilize reverse auctions for the following types of purchases:

- Simplified Acquisitions
- Large Acquisitions

Reverse auctions can be used to procure complex and hard-to-find services and direct procurement goods, and to streamline the cumbersome, time-consuming offline RFQ process. Some organizations have successfully used reverse auctions for construction projects, production materials for high tech manufacturers, and temporary staffing of IT projects. Other organizations have been slow to use reverse auctions for other types of goods for fear of leaking proprietary information to the competition. This is a major reason for organizations to align with pre-qualified suppliers.

The following vignettes are examples of reverse auctions conducted through the Buyers.Gov Web site.

Defense Finance and Accounting Service (DFAS)

On September 22, 2000, the Department of Defense Finance and Accounting Service (DFAS) and GSA FTS completed the largest online reverse auction in the history of e-Government. This auction for the procurement of information technology products was conducted with a group of 15 pre-qualified IT commodity suppliers, including some of the most notable companies in the federal IT market. Items were sold in four different lots; 6,200 desktops, 200 laptops, 744 light and 729 heavy-duty printers. In our experience we have found that in some cases, it makes sense to break a specification into lots or logical groupings of items to be acquired. This could result in multiple contract awards. In this case, contracts were awarded to three different companies; Gateway Computers, Micron Computers, and SR Tech (which is a small business).

Buyers.Gov facilitated the live auction, which was scheduled to last only one hour, but continued for over four hours, spurred on by descending prices. Overtimes occur when a bid is received within certain pre-determined parameters at the end of the initial auction period. For example, if a bid is received within the last minute of an auction is ¼% lower that the previous low bid the auction will be extended for another one, two or three minutes. The same rules will apply during the extension so that there may be several extra time periods after the initial auction period has completed.

Figure 3.1 Results of the DFAS Reverse Auction

Item	Qty.	IGCE Starting Price	Ending Price	Unit Price	Price Change
Lot 1 (500Mhz Laptops)	200	$447,000	$360,000	$1,800	19%
Lot 2 (667 Mhz Desktops)	6122	$6,801,045	$5,997,000	$980	12%
Lot 3 (16 ppm Printers)	744	$1,250,666	$649,000	$872	48%
Lot 4 (244 ppm Printers)	729	$1,240,000	$637,000	$874	48%

Savings: DFAS paid $2.2 million less than the $10 million Independent Government Cost Estimate (IGCE) for a large-volume information technology purchase.

Technology: The technology solution for this auction was powered by software provided by ACS Government Solutions, Inc. ACS has partnered with Ariba Sourcing, a leading provider of reverse auction services to offer B2GExpress.

Quote from the Director of DFAS: Thomas R. Bloom, Director of DFAS, was impressed with the results of the reverse private auction, and communicated his belief that Buyers.Gov could be a powerful savings tool in future procurements. "The Buyers.gov auction was tremendously successful and is a great vehicle to add to the competitive process. I think it has a great future in government procurement. "

United States Coast Guard

On November 16, 2000, the U.S. Coast Guard conducted its first-ever, online reverse auction for HU-25, Falcon Jet spare parts. This auction represents the successful teaming of Buyers.Gov and the U.S. Coast Guard for the procurement of a FTS's non-core competency – aircraft spare parts. In this event Buyers.Gov acted as an Application Service Provider (ASP) and provided the IT solution and the Reverse Auction enabler. The Aircraft Repair and Supply Center, of Elizabeth City, NC, was selected as the pilot site for this first time event with items being purchased in seven different lots.

Figure 3.2 The U.S. Coast Guard Reverse Auction

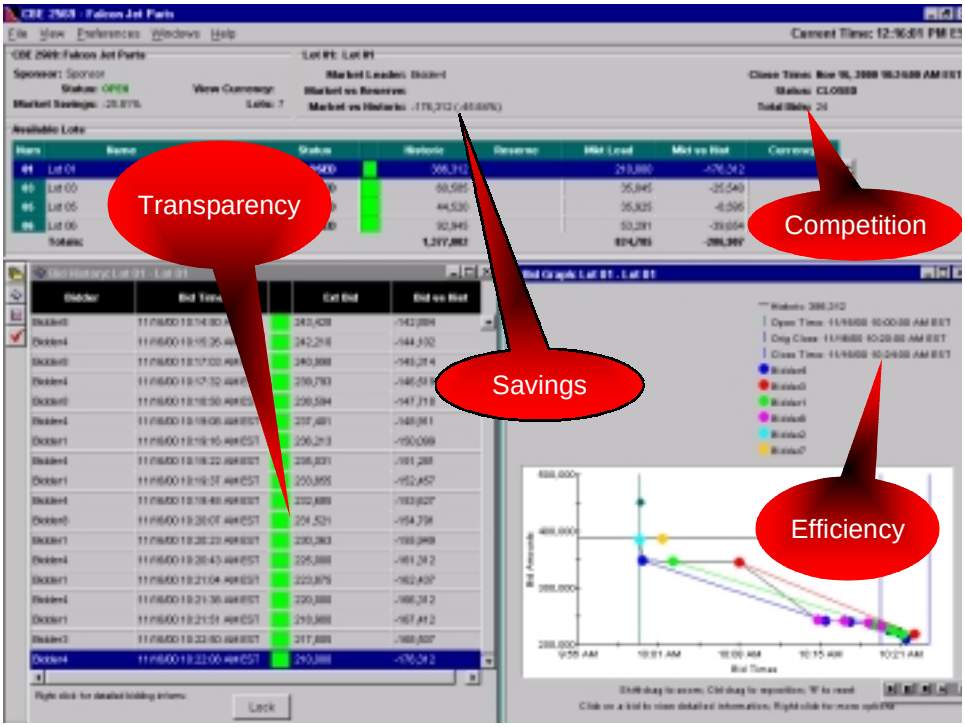


Figure 3.2 depicts a graphical representation of the US Coast Guard auction event. This graphic provides a consolidated view of the auction event, clearly representing **1) Transparency:** the bidding history of all participants, **2) Savings:** the resulting accrued savings, **3) Competition:** the number of bids received over the course of the event, and **4) Efficiency:** the time elapsed during the course of the event.

Reverse Auction Results

Figure 3.3 presents the savings, which resulted in U.S. Coast Guard event.

Figure 3.3 Results of the U.S. Coast Guard Reverse Auction

Item	IGCE	Wining Bid Amount	Savings
Lot 1	$386,321	$210,000	45.64%
Lot 2	$494,000	$459.062	7.07%
Lot 3	$60,585	$35,045	42.16%
Lot 4	$266,110	$249,833	6.12%
Lot 5	$44,520	$35,925	19.31%
Lot 6	$92,945	$53,291	42.66%
Lot 7	$33,330	$31,462	5.60%
Total	**$1,377,802**	**$1,074,618**	**22.00%**

Savings: Taken as a whole, the reverse auction resulted in an overall 22% price reduction, representing approximately $300,000, from the historically paid prices for these spare parts. Eight firms competed in the auction, which consisted of seven separate lots of HU-25 spare parts. A total of 291 bids were received, with one firm receiving four lot awards and three other firms receiving one lot award each. The successful bidders were CW Aerotech Services, Arlington, TX (4 lots), Duncan Aviation, Incorporated, Lincoln, NE (1 lot), IDC Aerospace, Milwaukee, WI (1 lot), and Dessault Falcon Jet, Teterboro, NJ (1 lot).

Technology: The Coast Guard teamed with the General Services Administration's Federal Technology Service (FTS) and selected FreeMarkets, a company that creates business-to-business online auctions, as the Internet facilitator for this event.

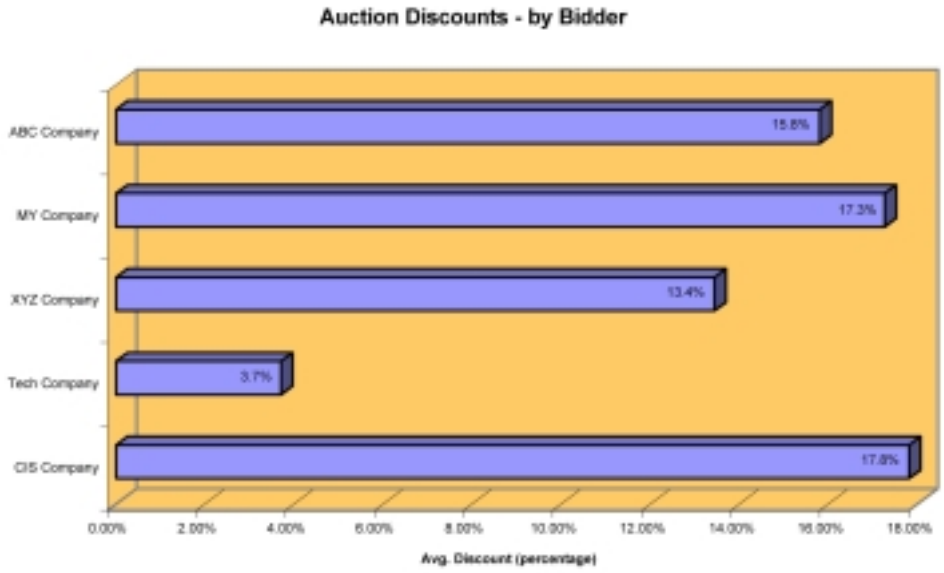
Air Force

On March 31, 20001, the MacDill Air Force Base conducted a private reverse auction through Buyers.Gov for the procurement of IT equipment. Five bidders participated in this private, reverse auction that lasted just over 30 minutes.

Savings

According to data collected by the auction facilitator, CIS Global, suppliers who participated in this private reverse auction reduced their prices from 3-17.8% as a result of the dynamic pricing format.

Technology: The Air Force teamed with the General Services Administration's Federal Technology Service (FTS) and selected CIS Global, as the Internet facilitator for this reverse auction.



Conclusion

The procurement tools available on Buyers.Gov make it technologically feasible and cost-effective for government to utilize dynamic pricing tools to aggregate purchases, increase competition, and provide real-time market pricing. Reverse auctions can be used to procure complex and hard-to-find services and direct procurement goods, and to streamline the cumbersome, time-consuming procurement process.

The success stories that we put forth in this section show us just that. DFAS got the "Best Buy," in our largest online reverse auction to date, with contracts worth $9.7 million. During this four-hour reverse auction, DFAS saved anywhere from 12% to 51% on each of the items they purchased (based on best government estimates). Buyers.Gov more recently saved the Air Force over 15% from the best government estimate on a $970,000 auction. Similarly, Buyers.Gov completed a reverse auction for the U.S. Coast Guard saving them 22% over their best government estimates on an approximately $1.4 million procurement.

4. Summary

Future Directions in the Use of Reverse Auctions

Through the use of reverse auctions, Buyers.Gov provides Federal Government agencies with a powerful tool that can facilitate substantial savings and streamline processes over traditional procurement methods. GSA FTS is uniquely qualified to provide these services to Federal Government agencies as a result of their knowledge of the federal procurement process, as well as their established relationships with federal purchasers.

We consider the current offering to be the first generation of Buyers.Gov, with many more exciting initiatives planned for the future. GSA FTS is currently in the process of transforming the single service offering on Buyers.Gov into a full-service exchange that will provide government buyers and suppliers with an end-to-end solution for all government e-procurement. Online reverse auctions are only the beginning of the services that will be offered through Buyers.Gov.

Today, buyers and suppliers are using reverse auctions on only an occasional basis. As exchanges mature, buyers and suppliers are expected to participate in exchanges on a transaction-by-transaction basis. This will be possible through the variety of e-procurement services that will be available in addition to online auctions, such as online catalogs, or requests for quotations. With the integration of buyers and suppliers into a business community, transaction and purchase costs will ultimately be driven down for all participants.

Contacts

GSA/FTS recognizes the strength gained by establishing strategic relationships with other agencies or entities for like purposes. Please contact FTS/Buyers.Gov at buyersgov@gsa.gov or 1-800-742-8416 if your agency desires to partner in future piloting opportunities of new initiatives in this area.

APPENDIX I

FREQUENTLY ASKED QUESTIONS